

**What is claimed is:**

1. An analytical shell-model producing apparatus, for producing an analytical shell-model for use in numerical analyzing from a configuration model, which is produced by a  
5 three-dimensional configuration modeler, comprising:

a reference-plate thickness size inputting means for inputting a reference-plate thickness size to be used when specifying a thin-plate portion from the configuration model; and

10 means for making two (2) surfaces, being narrower therebween than the reference-plate thickness size, which is inputted from said reference-plate thickness inputting means, in a pair of surfaces, producing an offset-surface between the pair of surfaces, and producing an internal-surface model by seaming on an outer periphery portion of the offset-surface.

15 2. The analytical shell-model producing apparatus, as described in the claim 1, further comprising means for producing a thickness attribute of said internal-surface model from face-to-face distance between the surfaces of said pair and a value of the plate thickness.

20 3. An analytical shell-model producing apparatus for producing an analytical shell-model to be use in numerical analyzing, for a configuration model, which is produced by a three-dimensional configuration modeler, comprising:

25 a reference-plate thickness inputting means for inputting a reference-plate thickness size to be used when specifying a thin-plate portion from the configuration model;

30 a pair-surfaces acknowledging means for acknowledging two (2) surfaces, being equal or less than the reference-plate thickness size, which is inputted by said reference-plate thickness inputting means, in face-to-face distance between the arbitrary

two (2) surfaces constructing the configuration model;

a top/bottom side rib attribute acknowledging means for acknowledging the pair of surfaces acknowledged by said pair surface acknowledging means to be one of a top side surface, a  
5 bottom side surface, and a rib surface;

an offset-surface producing means for producing an offset-surface by offsetting a group of surfaces on either the top side or the bottom side, which are acknowledged by said top/bottom side rib attribute acknowledging means, and the rib  
10 surface, respectively, in direction of a normal line directing in an inside of the configurations thereof;

15 a seam-surface producing means for seaming between the offset-surface, which is produced from either the top or the bottom surface by means of said offset-surface producing means, and also the offset-surface produced from the rib surface; and

an internal-surface producing means for registering the offset-surface seamed by said seam-surface producing means, as in a form of an internal-surface model.

4. The analytical shell-model producing apparatus, as  
20 described in the claim 3, further comprising a top/bottom rib attribute emphatic displaying means for displaying the top side surface, the bottom side surface and the rib surface, which are acknowledged by said top/bottom side rib attribute acknowledging means, with making emphasis thereon.

25 5. The analytical shell-model producing apparatus, as described in the claim 3, further comprising a dialog top/bottom side rib attribute amending means for amending the top side surface, the bottom side surface and the rib surface, which are acknowledged by said top/bottom side rib attribute acknowledging means, in a  
30 manner of dialog.

6. The analytical shell-model producing apparatus, as

described in the claim 3, wherein said internal-surface model  
producing means calculates the plate thickness on each of the  
internal-surface models as targets from the face-to-face distance  
between two (2) surfaces of the pair, to which a composite surface  
5 of the configuration model belongs, being as an original for  
producing the each internal-surface model, thereby giving this  
plate thickness value as to be the thickness attribute of the  
internal-surface model of target.